SANTA CRUZ BIOTECHNOLOGY, INC.

β-glucosidase (C-2): sc-365745

BACKGROUND

β-glucosidase is a predominantly liver enzyme which efficiently hydrolyzes β-D-glucoside and β-D-galactoside. Defects in β-glucosidase cause Gaucher disease, an inherited condition distinguished by the accumulation of glucosylceramide within the cells of the reticuloendothelial system. β-glucosidase is used in enzyme replacement treatment aimed at treating Gaucher disease. The absorption of dietary flavonoid glycosides in humans involves a critical deglycosylation step that is mediated by epithelial β-glucosidases.

REFERENCES

1. Overkleeft, H.S., et al. 1998. Generation of specific deoxynojirimycin-type inhibitors of the non-lysosomal glucosylceramidase. J. Biol. Chem. 273: 26522-26527.
2. de Graaf, M., et al. 2001. Cloning and characterization of human liver cytosolic β-glycosidase. Biochem. J. 356: 907-910.
3. Nemeth, K., et al. 2003. Deglycosylation by small intestinal epithelial cell β-glucosidases is a critical step in the absorption and metabolism of dietary flavonoid glycosides in humans. Eur. J. Nutr. 42: 29-42.

CHROMOSOMAL LOCATION

Genetic locus: GBA (human) mapping to 1q22.

SOURCE

β-glucosidase (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 67-95 near the N-terminus of β-glucosidase of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365745 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

β-glucosidase (C-2) is recommended for detection of β-glucosidase of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for β-glucosidase siRNA (h): sc-44904, β-glucosidase shRNA Plasmid (h): sc-44904-SH and β-glucosidase shRNA (h) Lentiviral Particles: sc-44904-V.

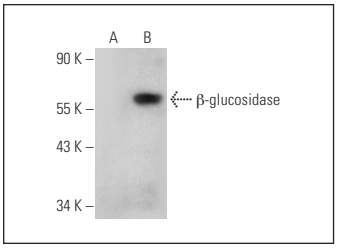
Molecular Weight of β-glucosidase: 57 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, β-glucosidase (h): 293T Lysate: sc-110483 or NCI-H929 whole cell lysate: sc-364786.

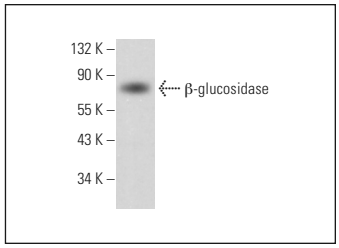
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



β-glucosidase (C-2): sc-365745. Western blot analysis of β-glucosidase expression in non-transfected: sc-117752 (**A**) and human β-glucosidase transfected: sc-110483 (**B**) 293T whole cell lysates.



β-glucosidase (C-2): sc-365745. Western blot analysis of β-glucosidase expression in NCI-H929 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Squillaro, T., et al. 2017. Impact of lysosomal storage disorders on biology of mesenchymal stem cells: evidences from *in vitro* silencing of glucocerebrosidase (GBA) and α-galactosidase A (GLA) enzymes. J. Cell. Physiol. 232: 3454-3467.
2. Li, X., et al. 2017. Nucleus-translocated ACSS2 promotes gene transcription for lysosomal biogenesis and autophagy. Mol. Cell 66: 684-697.
3. Kim, M.J., et al. 2018. Acid ceramidase inhibition ameliorates α-synuclein accumulation upon loss of GBA1 function. Hum. Mol. Genet. 27: 1972-1988.
4. Qi, W., et al. 2018. Validation of anti-glucocerebrosidase antibodies for western blot analysis on protein lysates of murine and human cells. Biochem. J. 476: 261-274.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.